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(FILE 'HOME' ENTERED AT 16:54:47 ON 10 DEC 2001)

FILE 'REGISTRY' ENTERED AT 16:54:55 ON 10 DEC 2001
L1 11 (3<NI<5 AND .5<SI<1 AND 0<MG<.5 AND 0<SN<2 AND .2<ZN<2 AND 50<C

FILE 'HCA' ENTERED AT 16:55:55 ON 10 DEC 2001
L2 10 L1
L3 3363 (NICKEL OR NI) AND (SILICON OR SI) AND (MAGNESIUM OR MG) AND (T
L4 10 L2 AND L3
SELECT IPC L4 1-10
L5 320117 E1-15
L6 1125 L5 AND GRAIN AND TENSIL?
L7 28 L6 AND L3
L8 27 L7 NOT L4

FILE 'REGISTRY' ENTERED AT 17:15:25 ON 10 DEC 2001
L9 3961 (0<ZN<2 AND 50<CU)/MAC

FILE 'HCA' ENTERED AT 17:15:41 ON 10 DEC 2001
L10 96 L5 AND L9 AND L3 AND (HIGH(2A) (TENSIL? OR STRENGTH))
L11 92 L10 NOT L8

AN 116:179230 HCA
 TI Manufacture of **copper** alloy sheets having high strength,
 electric conductivity, and bendability
 IN Hirano, Yasuo
 PA Nippon Mining Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03188247	A2	19910816	JP 1989-322703	19891214
AB	An ingot of Cu alloy contg. Ni 0.4-4.0, Si 0.1-1.0, and Sn 0.1-3.5% with Ni + Si + Sn <5.0% is soln. treated at .gtoreq.700.degree. for grain size 1-10 .mu.m, cold processed for draft <40%, and aged at 300-700.degree.. The Cu alloy, useful for elec. devices, optionally contains 0.001-2.0% Fe, Mg , Al, Cr, Mn, Co, Zn , Ti, Zr, Pb, Cd, In, Ag, and/or P. Thus, a Cu alloy (contg. Ni 1.6, Si 0.4, and Sn 0.5%) manufd. according to the invention had tensile strength 63 kg/mm2, elongation 14%, good bendability, and elec. cond. 35% of Cu std.				

AN 120:83730 HCA
TI **Copper**-composite parts for vibration dampers
IN Asai, Masato
PA Furukawa Electric Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 05222467	A2	19930831	JP 1992-58930	19920212
AB	The parts used in bending are manufd. the Cu -alloy composites reinforced with aramid fibers and/or carbon fibers. The Cu alloys showing good strength, stress relaxation, and corrosion resistance contain Ni 1.2-3.6, Si 0.3-1.0, Be 0.2-2.5, Ti 0.2-4.5, Sn 0.1-3.5, Co 0.1-2.5, Zn 0.1-5.0, and/or Mg 0.05-0.5%.				

AN 127:361652 HCA
TI **Copper** alloys having good discharge wear resistance for electric contacts

IN Ogura, Tetsuzo
PA Kobe Steel, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09263864	A2	19971007	JP 1996-97785	19960326
AB	Claimed Cu alloys contain 0.1-1.0 wt.% Si . Also claimed are Cu alloys contg. 0.1-1.0 wt.% Si and 0.01-6.0 wt.% (as total) .gtoreq.1 of metals selected from Mg 0.01-1.0, Al 0.01-1.0, Ti 0.01-1.0, Cr 0.01-1.5, Mn 0.01-1.0, Fe 0.01-3.0, Co 0.01-3.0, Ni 0.01-4.0, Zn 0.01-5.0, Zr 0.01-1.0, Ag 0.01-1.0, and/or Sn 0.01-2.0 wt.%.				

AN 116:49773 HCA
TI **Copper** alloy with good elastic characteristics and mechanical
strength for migration-resistant electric terminal and connector
IN Miyato, Motohisa; Hosokawa, Isao
PA Kobe Steel, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03226536	A2	19911007	JP 1990-19719	19900130
	JP 2977845	B2	19991115		

AB The **Cu** alloy contains **Ni** 0.4-4.0, **Si**
0.1-1.0, **Zn** 1.0-5.0 (.noteq.1.0), **Mg** 0.05-0.5,
Sn 0.1-0.5, **Cr**, **Ti**, and/or **Zr** 0.001-0.10 (.noteq.0.01) wt.%.

AN 2002:90278 HCAPLUS
 DN 136:121833
 TI Copper alloy for electronic or electric equipment parts
 IN Usami, Takayuki; Hirai, Takao
 PA The Furukawa Electric Co., Ltd., Japan
 SO PCT Int. Appl., 38 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002008479	A1	20020131	WO 2001-JP4351	20010524
	W: CN, KR, US				
	RW: DE, FI, FR, IT				
	JP 2002038228	A2	20020206	JP 2000-224425	20000725
	EP 1325964	A1	20030709	EP 2001-934329	20010524
	R: DE, FR, IT, FI				
	US 2002127133	A1	20020912	US 2001-5880	20011102
	US 2003165708	A1	20030904	US 2003-354151	20030130
PRAI	JP 2000-224425	A	20000725		
	WO 2001-JP4351	W	20010524		
	US 2001-5880	A2	20011102		

AB The copper alloy for electronic or elec. equipment parts comprises 1.0-3.0 Ni, 0.2-0.7 Si, 0.01-0.2 Mg, 0.05-1.5 Sn, 0.2-1.5Zn and <0.005% S. The alloy has a specific crystal grain diam. and a specific ratio of the longer diam. of a grain in a cross section parallel with the direction of a last plastic working to the longer diam. of a grain in a cross section perpendicular to the direction of the last plastic working, and/or a sp. surface roughness after the last plastic working.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

AN 131:192767 HCA
TI **Copper** alloys for electric conductive springs
IN Hirai, Takao; Usami, Takayuki; Yoshida, Koichi; Oyama, Yoshimasa
PA Furukawa Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 11222641	A2	19990817	JP 1998-33628	19980130
AB	The Cu alloys contain Ni 1.0-3.5, Si 0.2-0.9, Mg 0.01-0.20, Sn 0.05-1.5, and optionally Zn 0.2-1.5 wt.% (S and O are suppressed to <0.005 wt.%, for each), and have crystal grain size .gtoreq.1 .mu.m and .ltoreq.25 .mu.m. The Cu alloys may further contain (A) .gtoreq.1 selected from Ag 0.005-0.3, Mn 0.01-0.5, Fe 0.005-0.2, Cr 0.005-0.2, Co 0.05-2.0, and P 0.005-2.0, and/or (B) Pb 0.005-0.1 and/or Bi 0.005-0.03 wt.%. Prepn. of the Cu alloys involves (1) cold working, (2) recrystg. at 700-920.degree., and optionally (3) aging at 420-550.degree., and (4) cold working by .ltoreq.25% draft, and (5) low-temp. annealing. In the prepn., cold working by .ltoreq.25% draft may be carried out after 2. The alloys show excellent mech. properties, elec. cond., stress-release performance, and bending formability.				

AN 119:144571 HCA
TI **Copper** alloy trolley wires
IN Eguchi, Tatsuhiko; Asai, Masato; Shinozaki, Shigeo; Ooyama, Yoshimasa
PA Furukawa Electric Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 05125469	A2	19930521	JP 1991-319990	19911106
AB	The wires contain Ni 1.0-4.0, Si 0.3-1.0, and optionally Ag 0.01-1.0, Mg 0.01-1.0, Zn 0.01-1.0, Fe 0.01-0.5, Mn 0.01-0.5, and/or Sn 0.01-0.5%. The wires have high elec. cond. and strength, and excellent wear and heat resistance.				

AN 131:192767 HCA
TI **Copper** alloys for electric conductive springs
IN Hirai, Takao; Usami, Takayuki; Yoshida, Koichi; Oyama, Yoshimasa
PA Furukawa Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 11222641	A2	19990817	JP 1998-33628	19980130

AB The **Cu** alloys contain **Ni** 1.0-3.5, **Si** 0.2-0.9, **Mg** 0.01-0.20, **Sn** 0.05-1.5, and optionally **Zn** 0.2-1.5 wt.% (S and O are suppressed to <0.005 wt.%, for each), and have crystal grain size .gtoreq.1 .mu.m and .ltoreq.25 .mu.m. The **Cu** alloys may further contain (A) .gtoreq.1 selected from Ag 0.005-0.3, Mn 0.01-0.5, Fe 0.005-0.2, Cr 0.005-0.2, Co 0.05-2.0, and P 0.005-2.0, and/or (B) Pb 0.005-0.1 and/or Bi 0.005-0.03 wt.%. Prepn. of the **Cu** alloys involves (1) cold working, (2) recrystg. at 700-920.degree., and optionally (3) aging at 420-550.degree., and (4) cold working by .ltoreq.25% draft, and (5) low-temp. annealing. In the prepn., cold working by .ltoreq.25% draft may be carried out after 2. The alloys show excellent mech. properties, elec. cond., stress-release performance, and bending formability.

AN 116:199114 HCA
TI Low-strength **copper** alloy material having fine **grains**
IN Toe, Tamio
PA Nippon Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 03193849	A2	19910823	JP 1989-331286	19891222
AB	The Cu alloy contg. 3-25% Zn and 0.005-2.0% optional Pb, Fe, Sn , Al, Mn, Ni , P, As, Ti, Cr, Co, Zr, V, Be, Cd, Si , B, In, Ti, Mg , Hf, and/or Ge is cold-rolled for .gtoreq. 75% draft, finish annealed for < 0.015 mm in grain size, and cold-rolled in option for 1-15% draft to induce a fine-grained texture for easy forming into heat exchangers. The cold-rolled product shows tensile strength 33.0-40.3 kg/mm2, elongation 36.4-41.0%, Ericksen value 12.4-13.3 mm, and grain size 0.003-0.010 mm.				

AN 115:13739 HCA
 TI Manufacture of **copper** alloy strip having deep drawability and
 machinability
 IN So, Hidehiko
 PA Nippon Mining Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02170955	A2	19900702	JP 1988-321883	19881222
AB	<p>The Cu alloys contg. Ni 7-25, Zn 5-32, and optionally P, Sn, Si, Mg, Ti, Cr, Zr, Al, Fe, Pb, Mn, and/or Co 0.001-5% are cold rolled at .gtoreq.35% draft, annealed in the 1st stage to give a microstructure having the max./min. grain size ratio .ltoreq.2, further cold-rolled at .gtoreq.35% redn., annealed in the 2nd stage for av. grain size of 2-10 um, and finished by stress-relief annealing to manuf. high-strength strip for elec. connectors. Thus, the Cu alloy (contg. Ni 18, Zn 18, Ti 0.50, and Si 0.32%) was cold rolled at 50% draft, annealed in the 1st stage to give the ratio of 1.3, further cold rolled at 60% draft, annealed in the 2nd stage to give av. grain size of 4 .mu.m, and then annealed to manuf. the strip with tensile strength 70.4 kg/mm², elongation 6.9%, and Vickers hardness 214.</p>				

AN 115:62613 HCA
TI **Copper** alloys for lead frames of semiconductor devices
IN Kazama, Keizo; Shimizu, Yuichi; Osako, Toshiyuki
PA Sumitomo Metal Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 02200747	A2	19900809	JP 1989-17581	19890130
AB	A Cu alloy for a lead frame of a semiconductor device contains Ni 1-4, Si 0.2-1, V 0.01-0.1, Zn 0.05-1, and optionally Sn 0.1-3 and/or Mg 0.01-1 wt.% and has high strength , elec. cond., hot- and cold-workability, high adhesion strength of coatings, solderability, etc.				

AN 115:13645 HCA
TI **Copper** alloy for polished dies in forming of plastics
IN Nakayama, Hiroaki; Iwamura, Takuro
PA Mitsubishi Metal Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 02194139	A2	19900731	JP 1989-11538	19890120
	JP 2629332	B2	19970709		

AB The **Cu** alloy for easy mirror finishing and **high-strength** dies resistant to corrosion contains **Ni** 2.0-6.5, **Ti** 0.7-3.3, **Cr** 0.1-1.5, **Si** 0.001-0.1, and optionally **Zr** 0.001-0.5, **Co** 0.001-0.5, **Fe** 0.001-0.5, **Sn** 0.05-1.2, **Mn** 0.05-1.2, **Zn** 0.05-1.2, **Mg** 0.001-0.2%, **P** 0.001-0.2%, and rare-earth metals 0.001-0.2%. The **Cu** alloy typically shows tensile strength of 63.4-73.9 kg/mm², Vickers hardness 235-261, and elec. cond. 47.9-57.0% of **Cu** std.

AN 110:241152 HCA
TI **Copper** alloys for electric apparatus parts
IN Asai, Masato; Terashita, Michiaki; Oyama, Yoshimasa
PA Furukawa Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63274729	A2	19881111	JP 1987-106931	19870430
	JP 04040417	B4	19920702		

AB The title **Cu** alloys contain **Sn** 2.0-8.0, **Ni** 3.5-10.0, **Si** 0.6-5.0, .gtoreq.1 of Cr, Mn, Ti, Al, and Fe 0.03-2.0 in total, and optionally .gtoreq.1 of Ag, **Mg**, Ca, misch metal, Te, B, Nb, In, V, La, Y .ltoreq.0.2 each, Be, Zr, **Zn**, Co, and Cd .ltoreq.1.5 wt.% each and .ltoreq.1.5 wt.% in total and impurity concns. P .ltoreq.500 ppm, S .ltoreq.10 ppm, and O .ltoreq.50 ppm. The alloys have **high strength**, processibility, elec. and thermal cond., heat and corrosion resistance, and are useful for semiconductor leads, connectors, switches, etc.

AN 116:26123 HCA
TI Manufacture of **copper** alloy strip for radiator plates
IN Toe, Tamio
PA Nippon Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 03087326	A2	19910412	JP 1989-221524	19890830
AB	Cold-rolled strip is manufd. from ingot slabs of the Cu alloys contg. Zn 1-5, Sn 0.01-3, and optionally Ni 0.1-5, Si 0.01-2, and Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg , Ag, Cd, and/or Ge 0.001-2%. The strip is then annealed and finish rolled at 3-20% draft for the product with grain size .ltoreq.15 .mu.m as well as high stress-corrosion crack resistance, strength, formability, and paint adhesion. Thus, the strip from Cu -4.2 Zn -1.0% Sn alloy having grain size of 10 .mu.m after cold rolling and annealing showed tensile strength of 31.2 kg/mm2 and elongation 55.3%.				

AN 109:195637 HCA
 TI **Copper** alloy sheet of high strength and electric conductivity,
 and its manufacture
 IN Tsuji, Masahiro; So, Hidehiko
 PA Nippon Mining Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63130752	A2	19880602	JP 1986-275155	19861120

AB The high-strength **Cu** alloy sheet is manufd. for
 integrated-circuit leads. The **Cu** alloy contains **Ni**
 0.4-4.0, **Si** 0.1-1.0, and optionally P, As, Sb, Fe, Co, Cr,
Sn, Al, Ti, Zr, Hf, **Mg**, Be, **Zn**, and/or Mn
 0.01-1.0 each for total 0.01-0.2%. The **Cu** alloy is aged 1-20 h
 at 300-600.degree., cold rolled for .gtoreq.30% draft, and then
 stress-relief annealed. Thus, an ingot of **Cu** alloy contg.
Ni 1.6, **Si** 0.4, **Zn** 0.4, and O 0.0006% was hot
 rolled at .apprx.800.degree. to 7.5 mm, trimmed, cold rolled to 1.5 mm,
 annealed to have a **grain** size of .ltoreq.10 .mu.m, finish rolled
 to 0.8 mm, and heat treated 6 h at 420.degree.. The sheet was cold rolled
 and then stress relieved 0.5 min at 500.degree. to obtain a product
 showing **tensile** strength 69.5 kg/mm2, elongation 6%, and elec.
 cond. (% IACS) 53, vs. 68.9 kg/mm2, 10%, and 4 for Fe-42% **Ni**
 alloy.

AN 116:89249 HCA
TI High-strength phosphor bronze
IN Hirano, Yasuo; So, Hidehiko
PA Nippon Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03104845	A2	19910501	JP 1989-240250	19890918
AB	The bronze contains Sn 0.5-3.5, P 0.001-0.3, Ni 0.01-0.5, and optionally Fe , Mg , Al , Si , Cr , Mn , Co , Zn , Ti , Zr , and/or Pb 0.001-2%. The bronze is annealed at 150-650.degree. for grain size of 0.001-0.025 mm and pptn. of Ni phosphide, and cold rolled at <90% draft. Thus, a bronze contg. Sn 2.0, P 0.05, and Ni 0.3% was annealed at 350.degree. and cold rolled at 50% draft to 0.25 mm. The manufd. bronze strips had tensile strength 60 kg/mm ² , elongation 12%, and IACS elec. cond. 30%, vs. 54 kg/mm ² , 15%, and 28% for similar strips of Cu alloy contg. 2% Sn and 0.05% P .				

AN 99:199350 HCA
 TI **Copper** alloys for semiconductor device lead wires
 PA Nippon Mining Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58123846	A2	19830723	JP 1982-6063	19820120
	JP 60045698	B4	19851011		

AB The **Cu** alloys contain **Ni** 0.4-4.0, **Si** 0.1-1.0%, O .ltoreq.10 ppm, and optionally .gtoreq.1 P, As, Sb 0.001-0.1 each, Fe, Co, Cr, **Sn**, Al, Ti, Zr, **Mg**, Be, **Zn**, and Mn 0.01-1.0 each, but totalling 0.001-2.0%. The **grain** size is .ltoreq.5 .mu. diam. Thus, a 100 mm thick ingot was rolled at 800.degree. to 7.5 mm, scalped, cold rolled to 1.5 mm, annealed at 800.degree. for 5 min, cold rolled to 0.8 mm, and heated 6 h at 420.degree.. The **Cu** alloy [87781-33-7] sheet contg. **Ni** 1.60, **Si** 0.40%, and O 6 ppm with **grain** size of 2 .mu. had satisfactory solderability, no swelling after 5 .mu. thick Ag plating and heating 5 min at 35.degree., **tensile** strength 68.0 kg/mm2, and elongation 13.0%. Comparable values for the **Cu** alloy having a 7 .mu. **grain** size were satisfactory, swelling, 45.0 kg/mm2, and 21.2%.

AN 111:11181 HCA
 TI Manufacture of **high-strength copper** alloy material
 IN Asai, Masato; Oyama, Yoshimasa; Terashita, Michiaki; Shiga, Shoji
 PA Furukawa Electric Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63266049	A2	19881102	JP 1987-101401	19870424
	JP 2555067	B2	19961120		

AB The **high-strength** material for elec. and electronic parts is manufd. from the **Cu** alloy contg. **Sn** 1.5-10.0, **Ni** 0.1-10.0, **Si** 0.1-5.0, and optionally **Zn**, **Fe**, **Mn**, **Co**, **Al** .ltoreq.2.5 each, **Mg**, **As**, **Ca**, **V**, **Y**, rare earth elements, **In**, **Pb**, **Sb**, **Bi**, **Te**, **Ag**, **Au**, **P**, **B**, **Cr**, **Ga**, **Ti**, **Zr**, and/or **Ge** .ltoreq.0.5% (.ltoreq.3.0% as total). The **Cu** alloy from continuous casting is machined, cold-worked for 20-95% draft, heated at 300-950.degree. for 5 s-24 h in nonoxidizing atm., cooled at 0.01-500.degree./s, pickled and/or machined, cold-worked for 5-90% draft, heated .gtoreq.1 time at 200-650.degree. for 5 s-24 h in nonoxidizing atm. The product shows resp. tensile strength, elongation, and soldered joint strength of 78.1 kg/mm2, 10.8%, and 1.0 kg/mm2 as well as excellent bending workability and paint adhesion.

AN 107:203595 HCA
 TI **High-strength** electric conductor from **copper**
 -base alloy
 IN Shimada, Takashi
 PA Nippon Mining Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62133050	A2	19870616	JP 1985-270785	19851203
AB	<p>For high-strength conductors, the Cu alloy contains Ti and Sn 0.1-5.0 each, and optionally Pb 0.005-0.5 and/or .gtoreq.1 of P, Al, Zn, Ni, Si, Be, Fe, Mn, Mg, Cr, Co, Zr, As, Ag, Cd, In, Sb, Te, Ge, and/or Hf 0.05-1.0 for total 0.005-2.0%. The Cu alloy is soln.-treated, age-hardened for 10 s to 10 h at 200-700.degree., cold-rolled for .gtoreq.10% redn., and then heat-treated for 10 s to 10 h at 200-700.degree.. Thus, an ingot of Cu-2 Ti-1.8% Sn alloy at 800.degree. was hot-rolled into a plate 5 mm thick, and trimmed; heated for 30 min at 800.degree., and quenched in water; aged 1.5 h at 450.degree.; cold-rolled into strip 0.5 mm thick; and heated 3 min at 450.degree.. The strip product showed tensile strength 120 kg/mm2 and elec. cond. 30% of IACS, and was suitable for precision springs.</p>				